



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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September 13, 2006

Ref: 8EPR-EP

Brian Nazarenus, Chair
Water Quality Control Commission
Colorado Department of Public Health and Environment
OED-OPPI-A5
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Re: Section 303(d) Total Maximum Daily Load
(TMDL) Waterbody List (Regulation #93)

Dear Mr. Nazarenus:

On April 12, 2006, EPA partially approved and partially disapproved Colorado's 2006 Section 303(d) waterbody list. In particular, EPA approved the State of Colorado's (State's) decision to list the waters and pollutants and associated priority rankings as found in 2006 Section 303(d) List Water-Quality-Limited Segments Requiring TMDLs, Regulation #93 (5 CCR 1002-93) ("Regulation #93"). EPA disapproved the State's decision not to include a portion of Segment COPSPBE01a (Bear Creek from Evergreen Lake to Harriman Ditch) on the list.

EPA provided public notice and solicited public comment on its identification of this additional waterbody and pollutant for inclusion on Colorado's list. The comment period opened with a Federal Register notice published on April 25, 2006, and closed June 20, 2006. EPA has carefully reviewed the written comments received from the State and other commenters. A review of the comments and our response to those comments are included in Enclosure 1 to this letter.

Pursuant to the requirements of federal regulations implementing the Clean Water Act at 40 CFR § 130.7, I am hereby transmitting to you the water and pollutant that, along with the waters and pollutants found in Regulation #93, will make up the State's year 2006 Section 303(d) list. The water, pollutant and priority ranking being added to the list are identified in Table 1. Those waters and pollutants originally identified in our April 12, 2006 correspondence for which EPA deferred action to a later date are identified in Table 2. A brief explanation for not taking action on one of those waters, and no action being necessary on the other water, is included in the table and a more thorough rationale is included in Enclosure 2, "Revised Review of Colorado's 2006 Section 303(d) Waterbody List."



EPA has been in contact with the United States Fish and Wildlife Service (FWS) regarding whether EPA's approval of Colorado's year 2006 Section 303(d) list may affect the continued existence of any endangered or threatened species listed under the Endangered Species Act (ESA) or the designated critical habitat of any such species. EPA has not determined that today's approval may have such an effect. Therefore, EPA has decided to approve the list contingent upon the outcome of consultation with the FWS.

Table 1 **Waterbody, Pollutant, and Priority Ranking to be added to Colorado's Section 303(d) Waterbody List.**

Waterbody	Pollutant(s)	Water Quality Standard Not Met	Priority Ranking
Bear Creek (Bear Creek from Evergreen Lake to Harriman Ditch) Segment COSPBE01a	temperature	aquatic life use	low

Table 2 **Waters and Pollutants previously identified for which EPA Deferred Action to a later date on Colorado's Section 303(d) Waterbody List.**

Waterbody	Pollutant(s)	Reasons to Defer Action with respect to §303(d) List*
Red Mountain Creek (Red Mountain Creek from East Fork of Red Mountain Creek to Uncompahgre River) Segment COGUUN06b	copper, lead, zinc	Water quality standard to be reconsidered by State at upcoming hearing.
South Platte River (South Platte River from Burlington Ditch to Big Dry Creek) Segment COSPUS15	cadmium	A TMDL for cadmium was recently approved by EPA, so 303d listing for cadmium is no longer required.

*See Enclosure 2 for rationale in not taking action on these waters with respect to Colorado's list.

As mentioned in our April 12 letter to you, it is current Agency policy that a state should address the need for a TMDL no later than thirteen years from the time a waterbody/pollutant combination is added to its list. As we have seen with other waters on the State's Section 303(d) list, the time may be ripe for TMDL development for some waters or first there may be the need for additional work regarding monitoring or re-evaluation of the appropriateness of the standards.

We acknowledge the State already is working in some manner in all of these watersheds. We look forward to working collaboratively with the State as it addresses these waters. If you have questions on any of the above information, feel free to give me a call at 303-312-6598 or call George Parrish of my staff at 303-312-7027.

Sincerely,

Original Signed By

Max H. Dodson,
Assistant Regional Administrator
Office of Ecosystems Protection and
Remediation

Enclosures

cc: Steve Gunderson, Director, Colorado Water Quality Control Division

Enclosure 1

Responsiveness Summary to Public Comments on EPA's Partial Disapproval of Colorado's 2006 Section 303(d) Waterbody List

I. Introduction

Section 303(d) of the Clean Water Act (CWA) requires each state to identify waters for which existing point source pollution controls are insufficient for the affected waters to implement all applicable state water quality standards. States must also establish a priority ranking for waters, taking into account the severity of the pollution and the uses to be made of such waters, and develop total maximum daily loads (TMDLs) for these waters. A TMDL specifies the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and allocates pollutant loadings between point and nonpoint pollutant sources.

Under Section 303(d), EPA has the obligation to review and either approve or disapprove waterbody lists submitted by states. EPA reviewed Colorado's 2006 submission, which included a description of the data and information the State of Colorado (State) considered, its methodology for identifying waterbodies, and responses to public comment on the list, and the final list of waters that qualify for listing under Section 303(d). EPA's review of Colorado's Section 303(d) list is based on EPA's analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

After review of the State's submittal, on April 12, 2006, EPA partially approved and partially disapproved Colorado's Section 303(d) list submittal for the year 2006 listing cycle. Specifically, EPA approved Colorado's listing of 121 waters, associated pollutants, and associated priority rankings. EPA disapproved Colorado's decision not to list Bear Creek. EPA determined that Bear Creek was improperly excluded from the State's list because it is not meeting applicable water quality standards. For Bear Creek, the water quality standard not being met is its Class 1 cold water aquatic life use. Evidence of impairment for this water was submitted to the Colorado Water Quality Control Commission (Commission) during the State's Section 303(d) listing process. In its April 12, 2006 correspondence to the State, EPA also identified additional waterbodies on which EPA would defer action to a later date, with respect to the State's list. EPA also identified the reasons why it believed these waters/pollutants qualified for deferring action to a later date.

EPA sought public comment on its decision to include Bear Creek on the State's list. Solicitation for public comment was made in a Federal Register Notice published on April 25, 2006, and through the EPA Region VIII TMDL program website. Comments were due to EPA no later than June 20, 2006.

EPA received comments from 77 entities including private citizens, governmental agencies, elected officials, environmental groups, and private consultants. EPA did not receive any new data, information or substantive comments through this public notification that would cause the Agency to alter its decisions with respect to the State's 2006 Section 303(d) list. This document contains the summaries of comments EPA received during the public comment period and EPA's responses to those comments.

II. List of Commenters

Nazarenus, Brian (Colorado Water Quality Control Commission)
Fitz-Gerald, Joan (President, Colorado State Senate)
Witwer, Rob (Colorado State Representative, House District 25)
Clayshulte, Russell (Bear Creek Watershed Association)
Fitzgerald, Kevan (Morrison Planning Commissioner)
Whiting, Amelia (Trout Unlimited)
Nickum, David (Colorado Trout Unlimited)
Haile, John & Christopherson, Karen (Evergreen Trout Unlimited)
Haile, John (Evergreen Trout Unlimited)
Christopherson, Karen (Chinook Software)
Gardner, Hugh (Friends of Bear Creek)
Berger, W. Bart (Denver Mountain Parks Foundation)
Andres, Brad (Chair, The Evergreen Naturalists Audubon Society)
Lynch, Jeffrey
Monroe, Craig
Van Heukelem, Tom
Davis, Ken
Nelson, Gordon
Pramenko, George
McKibbin, Don
McKibbin, Donna
Zakes, Steven
Van Haveren, Bruce
Teaff, Kevin
Bridges, William
Walters, Jeff
Naess, Fred
Tewell, Jay
Riggs, Tim
Ellis, Stephen
Ooley, Charlie
Corfee, Bartley
Bennett, Douglas
Jenson, Sherwood
Hughes, James
Medina, Rob

Haggerty, Richard
Waters Phil
Drury, Lawrence
Chadwick, Wyatt
Goldblatt, Mike
Reynolds, Rich
Labbo, Andrew
Vogel, Randall
Conroy, Barbara
Blair, Josh
McNicholas, David
Levett, Howard
Jones, Nick
Anderson, Donny
Golob, Bruce
Hutchison, Lucas
Cohen, Ken
Aaron, John
Smith, Michael
Ledyard, Henry
Heimerl, Chris
Warren, David
Beach, Molly
Fraunfelder, Bob
Scott, Dan
Nehring, Joshua
Shipley, Brian (Kingfisher Driftes)
Haller, Tim
Riley, Ron
Mondragon, Kate
Tempel, Joe
McGoldrick, Michael
Thompson, Troy (Water Resource Engineer)
Hungate, Bruce & Jayne (Bear Creek Cabins)
Galpin-Plattner, Terry
Coyner, Mike
Shaw, Peter
Rosen, Josh
Massopust, Tom
Williams, Richard
Shaw, Eric
Bernstein, Bruce

III. Comments and Responses

A. Responses to General Comments

- Comment: EPA ignored the role of the Commission to reach an appropriate decision regarding placing waters on the State's Section 303(d) list. The Commission had to make decisions in the face of conflicting evidence and interpretations. It is inappropriate, unnecessary and unproductive for EPA to override the Commission's decision and proceed with a federal listing. It is improper as a matter of law and policy for EPA to substitute its judgment for the Commission's judgment.
- Response: EPA has a statutory responsibility to review a state's decision regarding the placement of waters identified under Section 303(d). In disagreeing with the Commission, the Agency was not ignoring the Commission's role, but was fulfilling its own statutory role. EPA's responsibility under Section 303(d) is to ensure all applicable waters are included on a state's list. There are times when there will be a disagreement between a state and EPA regarding the interpretation of data and information. There are several examples where this disagreement has occurred between EPA and other states regarding Section 303(d) lists. In those instances, EPA has carried out its statutory responsibilities and established lists in those states.
- Comment: EPA's decisions are based on a selective subset of the overall evidence.
- Response: EPA was careful to review all the written as well as the oral testimony provided to the Commission. In addition, EPA took care to evaluate existing and readily available data and information pertinent to the Section 303(d) listing process.
- Comment: Where a use impairment exists, but there is no credible evidence that a numerical standard for a pollutant has been exceeded, it is the Commission's policy choice to not include such waters on the Section 303(d) list. Where EPA's decision is based solely on guidance rather than legally binding regulation, the State is entitled to make its own policy determination.
- Response: EPA's implementing regulations require the state to "identify the pollutants" causing the impairment. 40 C.F.R. § 130.7(b)(4). EPA has interpreted this regulation, which was designed to ensure that states provide as much specific information as possible about the nature of impairments on their lists, to require states to list impaired waters even if a specific pollutant has not been identified at the time of the listing. Where EPA has been involved in litigation on related matters, the Agency's position has consistently been that if a state believes that a water is impaired by a pollutant, but cannot identify the specific pollutant, or if a water is impaired by multiple, as-of-yet unidentified pollutants, the water qualifies for inclusion on the 303(d) list. The regulations require a state to

list a water even if it is unsure of the pollutant associated with an impairment.

Furthermore, EPA's guidance clearly expresses that States should list all waters where impairments have been identified, even if the cause is unknown. EPA guidance has consistently addressed this issue for the 2002, 2004, and 2006 listing cycles. According to the 2002 guidance, impaired waters could be excluded only if it could be shown that a pollutant did not cause the impairment or it qualified for listing under category 4A or 4B¹. This approach was reiterated in EPA's 2004 and 2006 Section 303(d) listing guidance. All of the data and information EPA used in its analysis meets the State's credible data provisions. The inclusion of any waterbody on the State's list should be determined based on whether it is meeting applicable water quality standards and not on whether the sources and causes of any standards exceedences are fully understood.

Comment: There is no practical difference regarding what actions will be taken in the next few years whether Bear Creek is or is not included on the Section 303(d) list versus inclusion on the Monitoring and Evaluation list.

Response: Speculation about future actions does not factor into the Clean Water Act requirement that impaired and threatened waters be included on the Section 303(d) list. Listing of a waterbody provides focus and visibility to the restoration needs of that waterbody and often results in leveraging of resources for implementation of needed improvements. The State's M&E list simply provides for prioritized monitoring and evaluation. It does not require the same type and pace of investigation and information gathering related to the development of TMDLs that is set in motion by the listing of a waterbody.

Comment: Prior to proceeding with a TMDL, more information is needed regarding whether an adverse impact is occurring, discerning the cause of any such impact and/or the attainability/appropriateness of current water quality standards for this segment.

Response: EPA agrees that the State may need more information on the correctability of impacts, the causes of the impacts, and the appropriateness of current

¹ In EPA's Section 303(d) listing guidance, a state is asked to classify its waters in certain categories. Category 5 are waters that are impaired or threatened and need a TMDL. Category 5 is made up of waters that are included on a state's Section 303(d) list. Category 4 includes waters that are impaired or threatened, but do not need a TMDL. Category 4A includes waters where all necessary TMDLs have already been approved or established by EPA. Category 4B includes waters where it has been documented that other required pollutant controls will result in attainment of water quality standards in a reasonable period of time. Category 4C includes waters where it has been shown that the impairment or threat is not caused by a pollutant.

water quality standards prior to developing a TMDL. However, this information is not required prior to listing an impaired water on the State's Section 303(d) list. Listing a waterbody, and actually developing a TMDL for that waterbody, are separate processes. Indeed, for the majority of waters on state Section 303(d) lists, the first step in addressing a water quality problem is to make sure the standards are appropriate and to collect any needed data regarding the sources and causes. The requirement still remains that impaired waters are to be identified on a state's Section 303(d) list even if there is not a full understanding of the impairment. Because there is often the need for further investigation prior to developing a TMDL for a listed water, EPA has established a policy that allows a state about 13 years to collect the needed information and establish any needed TMDLs.

Comment: There is no practical difference between the State's approach of listing the waters on the Monitoring and Evaluation List and EPA listing the waters on the State's list as "low" priority.

Response: EPA is obligated under law to ensure the State's Section 303(d) list includes all waters that qualify for listing, regardless of prioritization or the State's action on a monitoring list. EPA believes waters on the Section 303(d) list, even at low priority, will be given a greater focus from stakeholders and perhaps the State than waters on the M&E list. EPA assigned a low priority to the waters it added to the list to: 1) provide the State maximum flexibility to manage this water along with other State priorities; and 2) perform needed pre-TMDL work prior to proceeding with TMDL development (e.g., reconsider assigned standards to the water, collect more field information, perform a use attainability analysis).

Comment: In some cases, EPA used data and information that were not presented to the Commission for its deliberations. EPA should be restricted to the same body of data and information used by the Commission.

Response: EPA's regulations require that listing decisions be based on all existing and readily available data and information. EPA limited itself to data and information that existed and were readily available prior to the State's cutoff date for prehearing statements. There was some information (e.g., daily flow data in Bear Creek) that may not have been presented to the Commission, but EPA needed to refer to this data, which existed and was readily available prior to the State's cut-off date, in response to the Commission's reliance on drought flow information in its final decision to exclude Bear Creek from the list.

B. Responses to Comments Specific to Bear Creek

- Comment: Impacts to Bear Creek aquatic life continue to appear to be related to the lingering effects of the 2002 severe drought conditions.
- Response: In evaluating the data and information for Colorado's Section 303(d) listing process, EPA carefully considered how to evaluate data and information associated with drought conditions when making its final decisions. Significant impacts to the Bear Creek fishery are evident both before and after the 2002 drought conditions.
- Comment: Analysis of the fishery data collected by the Colorado Division of Wildlife (CDOW) does not describe any significant impact to fish populations of the entire Bear Creek 1a segment. Alternative evaluations of available fisheries statistics find that the overall biomass is not "significantly" reduced, and in fact the trout population shows an overall improvement.
- Response: CDOW biological data, including fisheries data, were used to determine that the aquatic life use standard was not being met. The State's methodology for listing waters on its Section 303(d) list provides for the listing of waters based solely on biological assessment data. In Bear Creek aquatic life use impairment is demonstrated where the fish populations in the upper reaches of this segment reflect a condition that is significantly less than the expected or reference condition. Averaging biomass over miles of a stream is not a standard technique in assessing impairments, and could unintentionally mask impairments in otherwise reliable data sets. Other data and information were used in EPA's analysis, to verify the conclusions from the fishery statistics. EPA concurs with the Water Quality Control Division's conclusion that, although there was a partial recovery of the downstream Bear Creek fishery after the 2002 drought, the fishery metrics still indicated an impaired condition in the upper reaches of this segment. Impairment in any portion of a waterbody warrants inclusion of that waterbody, or a portion of that waterbody, on the Section 303(d) list.
- Comment: The Bear Creek Watershed Association, Commission and EPA agree that the next practical step to address issues in Bear Creek is further monitoring. This will occur whether the waterbody is included on the State's list, or not.
- Response: Regardless of what measures are taken in response to impairment, the Clean Water Act requires that impaired or threatened waters be included on a state's Section 303(d) list, consistent with EPA regulations.
- Comment: There is no record of water quality problems or long term biological impairments associated with this segment of Bear Creek. Listing a stream

- without credible evidence and based on non-representative conditions is not appropriate.
- Response: EPA has reviewed the data and information from all parties and agrees with the conclusions of the Water Quality Control Division that water quality problems have been noted in Bear Creek and that the biological impairments are significant enough to warrant listing this segment of Bear Creek. EPA believes that this assessment from the State is based on credible data and includes flow regimes and conditions apart from the time of drought in Bear Creek.
- Comment: EPA should consider the future construction of a storage reservoir to be built by Genesee Water and Sanitation District and the flow benefits that will derive from that reservoir in its listing decision.
- Response: EPA is obliged to make listing decisions on current conditions of waterbodies and projections of water quality for threatened waters. The Agency cannot consider the uncertain effects of future actions that may or may not change the current impaired condition of the waterbody.
- Comment: EPA focused on Bear Creek data during the drought episode of 2002, relying on fishery and temperature data taken in 2002 in making its listing decision.
- Response: EPA excluded data collected during the drought episode and relied on the various biological and temperature data that represented conditions in Bear Creek before and after drought conditions. For example, EPA used the biological data for Bear Creek that showed conditions before the 2002 drought (declining fish population data and fish kills observed by CDOW) and after the drought (impaired fish population data in upper reaches of segment).
- Comment: High water temperatures in Bear Creek pose a threat to the biodiversity of the waters, and fisheries have seen a noticeable decline in the past 10 years. Available stream temperature data indicate Bear Creek is impaired whenever flows drop below a certain level. Bear Creek has long been a valuable resource to the watershed residents and visitors, and improvements based on sound science should be sought for the aquatic life communities.
- Response: EPA reviewed the data and information from all parties and concurs with the Water Quality Control Division that the biological impairments are significant enough to warrant listing this segment of Bear Creek. Further, the State's Listing Methodology ensures the use of scientifically defensible data, sampling and analysis. Listing a waterbody provides focus and visibility to the restoration needs of that waterbody and often results in leveraging of resources for implementation of needed

improvements. The TMDL process provides for further public outreach and review ensuring the use of sound science, and full expression of the significance and value of a waterbody to its community.

Comment: The upper part of Bear Creek - roughly O’Fallon Park to Evergreen Lake – shows a precipitous decline in trout biomass followed by a lack of recovery. CDOW biologists testified before the Commission that Bear Creek has lost its “margin of safety”. The ecological system is so stressed that the aquatic life is easily damaged and unable to recover naturally. Data and information document impairments before the 2002 drought.

Response: EPA reviewed the data and information from all parties and concurs with the Water Quality Control Division findings and CDOW testimony that the aquatic community in the upper portion of Bear Creek segment COSPBE01a shows significant decline dating back before 2002, and a lack of recovery since. Fisheries data for this segment is characteristic of an aquatic community experiencing significant stressors. It is hoped that listing this waterbody will lead to further investigations of the sources of these stressors and implementation of needed mitigation.

Comment: The Commission chose not to list Bear Creek, citing the belief that the problems were drought related and that the cause of the impairment is unknown. But the Commission concedes that the aquatic life community is impaired, and the data do not support a persistent drought effect.

Response: EPA agrees. The Agency carefully considered how to evaluate data and information associated with drought conditions when making its final decisions. Significant impacts to the Bear Creek fishery are evident both before and after the 2002 drought conditions, showing an obvious decline and lack of recovery in the upper portion of this waterbody. Nearly all parties, including the Commission, concur that the biological community shows evidence of impairment. According to EPA Section 303(d) guidance, waters should be listed if biological evidence demonstrates an impairment, unless it is known that no pollutant causes the impairment. EPA’s guidance clearly expresses that States should list all waters where impairments have been identified, even if the cause is unknown.

Comment: The 303(d) listing of Bear Creek, even as a low priority, provides incentive to solve problems, and puts the waterbody on a timeline for solutions to be found.

Response: EPA agrees. Listing a waterbody provides focus and visibility to the restoration needs of that waterbody, and often results in leveraging of resources and collaborative efforts to find water quality solutions. Further, EPA notes that Bear Creek has been on the State’s Section 303(d) list since the 2004 listing cycle, and that the State has up to 13 years to

develop a TMDL for listed waterbody-pollutant combinations. It is hoped that this listing will bring additional resources and collaborative efforts to further investigate and address Bear Creek's impairment.

Comment: The issue is a policy choice of how to proceed when there is biological evidence of an impact to Bear Creek's aquatic life uses but the cause of the impact has not been determined.

Response: According to EPA Section 303(d) guidance, waters should be listed if biological evidence demonstrates an impairment, unless it is known that no pollutant causes the impairment. In the case of Bear Creek, there is biological evidence of an impairment and there is also evidence that a pollutant or pollutants are likely causing the biological impairment.

Comment: The next step with respect to Bear Creek will be further monitoring to determine the potential role of temperature in impacting these waters during non-drought conditions.

Response: The State is required to list Bear Creek because the waterbody is impaired because of pollutants. Listing the water will help ensure that adequate monitoring is conducted to determine the role of pollutants and that an appropriate TMDL is developed.

Comment: It is not reasonable that full aquatic populations could be returned in such a short period following drought conditions. EPA ignored all pre-drought data and based its decision on conditions during and shortly following the drought.

Response: The CDOW and the Water Quality Control Division both provided testimony to the Commission that rebound of a fishery after a drought condition is possible and, indeed, did occur in all but the upper part of the Bear Creek reach. EPA evaluated the trend of biological health during pre-drought conditions in Bear Creek as well as the post-drought conditions. EPA did not ignore pre-drought data. Rather, EPA considered the diminishing biological health of Bear Creek before the drought (declining fish population data and fish kills observed by CDOW) and after the drought (impaired fish population data and lack of adult fish) to support its conclusion that Bear Creek is impaired. Finally, data provided by Trout Unlimited for the years prior to and following the drought, and data provided by Evergreen Metropolitan District for years preceding and following the drought all showed high (i.e., > 20°C) temperature values in Bear Creek.

Comment: Bear Creek fisheries have seen a noticeable decline in the past 10 years and improvements should be sought for the aquatic life communities. EPA should declare Bear Creek impaired so that the State must develop

- and implement a plan for mediation. Bear Creek needs the protection that will be afforded it by Section 303(d) listing status.
- Response: EPA reviewed the data and information from all parties and concurs with the Water Quality Control Division and the CDOW that significant biological impairment is well documented by the data. EPA views these impairments as significant enough to warrant listing this segment of Bear Creek. Listing a waterbody provides focus and visibility to the restoration needs of that waterbody and often results in leveraging of resources for implementation of needed improvements. The State retains a number of options on how to address the water quality issues, once the segment is 303(d) listed.
- Comment: The Bear Creek remediation process should begin now. Colder water could be drawn from the Evergreen Lake bottom; dredging silt built up in the bottom of the lake would allow for deeper, cooler water; and streambank revegetation with willows and cottonwoods would provide channel shading in areas now devoid of riparian vegetation. Data suggest the potential for positive results from remediation.
- Response: Because there is often the need for further investigation prior to developing a TMDL for a listed water, EPA has established a policy that allows a state about 13 years to collect the needed information and establish any needed TMDLs. The State retains a number of options on how to address the water quality issues, once the segment is 303(d) listed. Often, the first step in the process is to make sure the water quality standards are appropriate and to collect any needed data regarding the sources and causes. Listing a waterbody does not prohibit other remediation activities from being undertaken. Indeed, because listing provides focus and visibility to the restoration needs of that waterbody, creative solutions and cooperatively pooled resources are often brought forth for needed improvements.
- Comment: Those opposed to 303(d) listing argue that the average temperatures don't exceed the limits or that the water temperature doesn't exceed the limit for a given number of days. But fish don't live in average temperatures any more than asthmatics live in average daily air quality. This stream has lost its margin of safety and needs protection.
- Response: The Commission adopts water quality standards designed to protect uses in all waters, including a cold water aquatic life use for Bear Creek. The Division is currently working with stakeholders to update and specify the implementation of temperature standards for the protection of aquatic life, and EPA is a participant in this process. EPA reviewed the data and information from all parties, including multiple sources of temperature data, and concurs with the Water Quality Control Division findings and

CDOW testimony before the Commission. Testimony demonstrated that the aquatic community in the upper portion of Bear Creek segment COSPBE01a shows significant decline dating back before 2002, a lack of recovery since, and may have lost the margin of safety necessary to rebound from certain sustained and intermittent stressors. It is hoped that listing this waterbody will lead to further study and understanding of the sources of these stressors, and ultimately towards implementation of needed remediation.

Comment: The flows in this stretch of Bear Creek are primarily composed of water spilling over Evergreen Lake's dam, sewage treatment plant effluent, and perhaps some seepage from springs. Observations provide strong support that Bear Creek is impaired.

Response: For the majority of 303(d) listed waters, the first step in the TMDL process is to make sure that the standards are appropriate and to collect any needed data regarding the sources and causes. Analysis of the physical conditions and habitat in Bear Creek could further inform that process and help specify the nature and causes of the high temperatures. Because more in-depth study is frequently necessary prior to developing a TMDL for a listed water, EPA has established a policy that allows a state about 13 years to collect the needed information and establish any needed TMDLs. In assigning a low priority to this waterbody listing, EPA is providing the state maximum flexibility and time in addressing any necessary preliminary investigations, monitoring and analysis or collaborative approaches toward improvements.

Enclosure 2

REVISED

**Review of Colorado's 2006
Section 303(d) Waterbody List**

*Attachment to letter from Max H. Dodson, Assistant Regional Administrator,
Office of Ecosystems Protection and Remediation, US EPA, Region VIII
to Brian M. Nazarenus, Chair Water Quality Control Commission*

Transmittal of Original Year 2006 §303(d) List Letter from State: March 21, 2006
EPA's Partial Approval/Partial Disapproval of State's List: April 12, 2006

I. Purpose

II. Statutory and Regulatory Background

III. Review of Colorado's Submission

- A. *Description of the methodology used to develop the list. (§130.7(b)(6)(I))*
- B. *Description of the data and information used to identify waters, including a description of the data and information used by the state as required by section 130.7(b)(5). (§130.7(b)(6)(ii))*
- C. *A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in §130.7(b)(5). (§130.7(b)(6)(iii))*
- D. *Any other reasonable information requested by Regional Administrator. (§130.7(b)(6)(iv))*
- E. *Prioritization of waters on the list taking into account the severity of the pollution and the uses to be made of such waters; the prioritization shall specifically include the identification of waters targeted for TMDL development in the next two years. (§130.7(b)(4))*
- F. *Identification of the pollutants causing or expected to cause violation of the applicable water quality standards. (§130.7(b)(4))*
- G. *Basis for Decision to Add Waters to Colorado's 2006 §303(d) List.*
- H. *Basis for Decision to Defer Action to a later date for Waters excluded from Colorado's 2006 §303(d) List.*
- I. *Documents used in review of Colorado's §303(d) waterbody submittal.*

I. Purpose

The purpose of this review document is to describe the rationale for EPA's final action on Colorado's 2006 Section 303(d) waterbody list as submitted on March 21, 2006 ("submittal"). EPA's final action addresses its April 12, 2006 partial approval and partial disapproval of the

State's list. In its April 12, 2006 letter, the Agency approved all the waters the State included on its list, but also disapproved the list for certain waters that were excluded. EPA sought public comment on its action of partially disapproving the State's list and its proposal to add waters to the list. A public notice soliciting comments was published in the Federal Register on April 25, 2006. In response to those comments, EPA has now made a final decision regarding waters proposed to be added to the State's list.

Section G. below describes EPA's rationale for adding certain waters to the State's list and Section H. describes EPA's rationale for deferring action to a later date on certain waters excluded from the State's list.

The following sections identify those key elements to be included in the list submittal based on the Clean Water Act ("Act") and EPA regulations. (See 40 C.F.R. § 130.7.) EPA reviewed the methodology used by the State in developing the §303(d) list and the State's description of the data and information it considered. EPA's review of Colorado's Section 303(d) list is based on EPA's analysis of whether the State reasonably considered existing and readily available water quality-related data and information and reasonably identified waters required to be listed.

EPA has concluded that the State developed its Section 303(d) list in partial compliance with Section 303(d) of the Act and 40 C.F.R. § 130.7. Because Colorado's submission does not include all waters that meet Section 303(d) listing requirements, EPA is partially approving and partially disapproving Colorado's list submission and adding the additional water, pollutant, and corresponding priority to the final 2006 list. In its review of whether the State reasonably considered existing and readily available water quality-related data and information to identify listed waters, EPA relied upon, in part, the prehearing, rebuttal, and supplemental statements as well as testimony provided to the Water Quality Control Commission ("Commission") as part of the Section 303(d) list hearing conducted by the Commission. A more extensive list of references EPA relied upon in its review is included in the last section of this document.

II. Statutory and Regulatory Background

Section 303(d)(1) of the Act directs states to identify those waters within their jurisdiction for which effluent limitations required by Section 301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The Section 303(d) listing requirement applies to waters impaired by point and/or nonpoint sources, pursuant to EPA's long-standing interpretation of Section 303(d).

EPA regulations provide that states do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by State or local

authority, and (3) other pollution controls required by State, local, or federal authority. (See 40 C.F.R. 130.7(b)(1).)

In developing Section 303(d) lists, states are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, consideration of data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the state's most recent Section 305(b) report; (2) waters for which dilution calculations or predictive modeling indicate nonattainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any Section 319 nonpoint assessment submitted to EPA. (See 40 C.F.R. § 130.7(b)(5).) In addition to these minimum categories, states are required to consider any other data and information that is existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. (See Guidance for Water Quality-Based Decisions: The TMDL Process, EPA Office of Water, 1991, Appendix C) ("EPA's 1991 Guidance".) In addition, EPA's guidance on submittal of reports pursuant to Section 303(d) identified categories of information that may constitute existing and readily available data and information (See "Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act"; July 29, 2005) ("EPA 2006 Listing Guidance"). While states are required to evaluate all existing and readily available water quality-related data and information, states may decide to rely, or not rely, on particular data or information in determining whether to list particular waters.

In addition to the EPA 2006 Listing Guidance, EPA has published guidance documents that provide approaches for assessing water quality data and information. The documents include Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates: Supplement, Office of Water, EPA-841-B-97-002B, September 1997 ("EPA 305(b) Guidance") and Consolidated Assessment and Listing Methodology, Office of Wetlands, Oceans, and Watersheds, July 2002 ("EPA's CALM Guidance"). EPA also used the guidance in these documents in evaluating the manner in which Colorado assessed its data to determine impairment status of waterbodies.

In addition to requiring states to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 C.F.R. § 130.7(b)(6) require states to include as part of their submissions to EPA documentation to support decisions to rely or not rely on particular data and information and decisions to list or not list waters. Such documentation should include, at a minimum, the following information: (1) a description of the methodology used to develop the list; (2) a description of the data and information used to identify waters; and (3) any other reasonable information requested by the Region.

III. Review of Colorado's Submission

A. Description of the methodology used to develop the list. (§130.7(b)(6)(i))

A description of the listing process, the criteria for listing, and the criteria for determination of TMDL priority is found in the State's Section 303(d) Listing Methodology - 2006 Listing Cycle ("Listing Methodology"). The Listing Methodology was developed through a public process and finalized as a policy at a Water Quality Control Commission administrative action hearing on May 9, 2005. The provisions in Section III. of the Listing Methodology set forth criteria that generally were used to make decisions regarding which waters to include on the 2006 Section 303(d) List (Regulation #93) and the State's 2006 monitoring and evaluation list ("M&E List"; Regulation #94).

With the exception of Bear Creek (Segment COSPBE01a), the State properly listed waters with sources causing or expected to cause impairment, consistent with Section 303(d) and EPA guidance. Section 303(d) lists are to include all water quality-limited segments ("WQLSs") still needing TMDLs, regardless of whether the source of the impairment is a point and/or nonpoint source. EPA's long-standing interpretation is that Section 303(d) applies to waters impacted by point and/or nonpoint sources. This interpretation has been described in EPA guidance in a 1997 memorandum clarifying certain requirements for 1998 Section 303(d) lists. (See EPA's 1991 Guidance, and the August 27, 1997 EPA guidance listed below.) In addition, this interpretation of Section 303(d) is described in detail in a May 23, 1997 memorandum from Geoffrey Grubbs, Director of the Assessment and Watershed Protection Division, EPA Office of Water, to the FACA Workgroup on Section 303(d) Listing Criteria. (See May 23, 1997 and August 8, 1997 references listed below.)

Except for those reasons discussed below in Section G. Basis for Decision to Add Waters to Colorado's 2006 §303(d) List, EPA finds the State's methodology reasonable and sufficient for purposes of Section 303(d).

B. Description of the data and information used to identify waters, including a description of the data and information used by the State as required by section 130.7(b)(5). (§130.7(b)(6)(ii))

Colorado provides a description of the data and information used to develop its list in the Statement of Basis, Specific Statutory Authority and Purpose; February 2006 Rulemaking section of Regulation #93. Information and databases consulted included the State water quality standards, discharge permit system files, and STORET (EPA's national water quality database). Further, the State actively solicited various entities for data and information that could be used in the list development process. The Colorado Water Quality Control Division ("Division") also continues to independently collect and analyze new data on a rotating basin basis and utilizes such data in making listing determinations.

The data and information requirements mentioned in 40 C.F.R. 130.7(b)(5) include, but are not limited to, all the existing and readily available data and information about the following four categories of waters:

. Waters identified by the State in its most recent section 305(b) report as "partially meeting" or "not meeting" designated uses or as "threatened" (§130.7(b)(5)(i))

At the time Colorado's 2006 Section 303(d) list was established, the final Section 305(b) report for 2006 had not been completed. The State has drafted its 2006 Section 305(b) report and it is expected to incorporate the State's 2006 Section 303(d) list. As such, the waters identified in the final Section 305(b) report as "not supporting" are expected to generally correspond to those waters on the Section 303(d) list.

. Waters for which dilution calculations or predictive models indicate nonattainment of applicable water quality standards (§130.7(b)(5)(ii))

The State also considered the results of dilution calculations or predictive models that indicate a particular waterbody was threatened or impaired. For the 2006 listing cycle, there were very few if any waters that were included on the final list based on this information.

. Waters for which water quality problems have been reported by local, state, or federal agencies; members of the public; or academic institutions (§130.7(b)(5)(iii))

The State actively solicited various entities for data and information that could be used in the list development process. The State accepted credible data and information that was submitted in accordance with the listing process schedule, whether submitted by the EPA or any other interested party.

In addition, the State used biological assessments from the CDOW as a basis for listing waters. This included fish population data, length-frequency histograms, trend data, and information on Species of Critical Concern including native fish species.

The State also relied upon watershed assessment results from US Forest Service (USFS) hydrologists to list waters. Information from the USFS included physical, chemical, and biological data and information.

. Waters identified by the State as impaired or threatened in a nonpoint assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment (§130.7(b)(5)(iv))

The State evaluated the nonpoint source ("NPS") data and information that had been obtained through its historical NPS assessments. If the data or information met the State's Section 303(d) credible evidence criteria defined in its Listing Methodology, then

the data or information was considered by the State during the development of the §303(d) list. Further, there is general consistency between the Section 319 NPS projects in the State and the waterbodies on the 2006 Section 303(d) list.

EPA reviewed Colorado's description of the water quality-related data and information it considered for identifying waters on the Section 303(d) list. EPA concludes that the State properly assembled and, except for those reasons discussed below in Section G. Basis for Decision to Add Waters to Colorado's 2006 §303(d) List, evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 C.F.R. § 130.7(b)(5).

C. A rationale for any decision to not use any existing and readily available data and information for any one of the categories of waters as described in Section 130.7(b)(5) (§130.7(b)(6)(iii))

For purposes of developing a technically sound waterbody list, the State developed credible evidence criteria for data and information used in the 2006 listing process as described in its Listing Methodology. The credible evidence criteria included both monitored as well as evaluated data and information. An example of monitored data used as a basis for listing is Coal Creek (segment COGUUG11), listed for metals impairment as evidenced by numeric ambient water quality data. An example of evaluated data used as a basis for listing is Trout Creek and tributaries (segment COSPUS03), listed for impairment due to sediment based on qualitative observational data.

EPA reviewed the State's criteria developed for the 2006 listing process and determined that the rationales for not using certain existing and readily available water quality-related data and information were reasonable except for those situations discussed in Section G. Basis for Decision to Add Waters to Colorado's 2006 §303(d) List below. The State considered the age of the data, quantity of the data, evidence of quality control on the data, and the qualifications of personnel that collected biological or physical data on waterbodies as factors in determining whether particular data and information was sufficiently reliable to use as a basis for listing waters. Consideration of these factors in evaluating water quality-related data and information is consistent with EPA's 305(b) Guidance and EPA's 2006 Listing Guidance, and EPA believes these factors are similarly appropriate for Colorado to consider in evaluating information to determine whether waters should be included on the State's Section 303(d) list. Unless data or information existed for a waterbody that met these criteria, the data and information was generally not used and the waterbody was not listed on the Section 303(d) list. Colorado developed its credible evidence criteria in the Listing Methodology through a state Work Group consisting of representatives from a wide range of stakeholder groups.

EPA notes that for many of those waters that do not have data or information that meet the credible evidence criteria, the State has indicated its intent to conduct an aggressive monitoring program to collect reliable data to use as a basis for determining the quality of

these waters. The State intends to add or remove waters from subsequent §303(d) lists as warranted by results of its monitoring efforts within 10 years after a water is first added to the State's M&E List. EPA further notes that the State's 2006 M&E List includes 90 waterbodies.

EPA has reviewed the State's rationale for not using certain data and information and has found, except for those reasons discussed below in Section G. Basis for Decision to Add Waters to Colorado's 2006 §303(d) List, such rationale reasonable and sufficient for purposes of Section 303(d).

D. Any other reasonable information requested by Regional Administrator. (§130.7(b)(6)(iv))

Except for those situations mentioned in Section G. Basis for Decision to Add Waters to Colorado's 2006 §303(d) List below, EPA concludes that the State has provided good cause for removing previously listed waters from its Section 303(d) list and for excluding other waters. Since EPA regulations require only those WQLSs still requiring TMDLs to be listed, where certain other controls are not sufficient to attain water quality standards, waters for which TMDLs have been developed and approved need not be included on the Section 303(d) list. Additionally, waters for which the State has information showing that applicable standards are being met also are not required to be listed.

E. Prioritization of waters on the list taking into account the severity of the pollution and the uses to be made of such waters; the prioritization shall specifically include the identification of waters targeted for TMDL development in the next two years. (§130.7(b)(4))

EPA regulations interpret the requirement in Section 303(d)(1)(A) of the Act that States establish a priority ranking for listed waters. The regulations at 40 C.F.R. § 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for TMDL development, and also to identify those WQLSs targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. (See Section 303(d)(1)(A).) As long as these factors are taken into account, the Act provides that it is the states that establish priorities rather than EPA. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and state or national policies and priorities. (See 57 Fed. Reg. at 33040, 33045 (July 24, 1992), and EPA's April 1991 Guidance listed below.)

The State provided a discussion regarding its prioritization method starting in Section IV of the Listing Methodology. The method resulted in assigning a "High," "Medium," or "Low" priority to each of the waters on the list. The prioritization method included consideration of primary factors such as the severity of the problem and the use classification of the waterbody, and secondary factors such as stakeholder readiness, ecological importance of the waterbody and resident aquatic species, programmatic needs, and court orders. The State acknowledges that

there are some TMDLs that are a high priority based on these factors, but are also complex TMDLs. In such cases, the development of TMDLs may take longer than that of simple, lower priority TMDLs that are begun after the high priority TMDLs.

EPA reviewed the State's priority ranking of listed waters for TMDL development, and concludes that the State properly took into account the severity of pollution and the uses to be made of such waters, as well as other relevant factors. EPA has found the waterbody prioritization used by Colorado as reasonable and sufficient for purposes of Section 303(d).

F. Identification of the pollutants causing or expected to cause violation of the applicable water quality standards. (§130.7(b)(4))

The regulations at 40 C.F.R. § 130.7(b)(4) require States to identify, for each segment included on their Section 303(d) lists, the “pollutants causing or expected to cause violations of the applicable water quality standards”. The State identified the pollutants causing or expected to cause violation of the applicable water quality standards, including those pollutants that have no corresponding numeric standard in the State standards (e.g. sediment). The State's identification of the relevant pollutants is found on the Section 303(d) list.

Except for those situations mentioned in Section G. Basis for Decision to Add Waters to Colorado’s 2006 §303(d) List below, EPA concludes that the State has appropriately identified pollutants causing or expected to cause exceedences of applicable water quality standards.

G. Basis for Decision to Add Waters to Colorado’s 2006 §303(d) List

The following provides the basis for EPA’s disapproval of Colorado’s decision to not list Bear Creek, Segment Cospbe01a, in its 2006 Section 303(d) list and identifies temperature (as it relates to heat gain in the stream) as the pollutant contributing to the aquatic life use impairment. Further, EPA has provided a “low” priority ranking for TMDL development for this waterbody. The “low” priority does not indicate that the problems of Bear Creek are not important to address. Rather, the low priority provides the State flexibility in how best to address Bear Creek within its own time frame.

Based on its review of the list submission, EPA determined that Bear Creek was improperly excluded from the State’s list because it is not meeting applicable water quality standards. The definition of “applicable water quality standards” for purposes of Section 303(d) listing includes numeric criteria, narrative criteria, waterbody uses (e.g., designated uses), and antidegradation requirements. (See 40 C.F.R. § 130.7(b)(3).) For Bear Creek, the water quality standard not being met is its Class 1 cold water aquatic life use.

EPA believes Bear Creek qualifies as a WQLS where it is known that water quality does not meet applicable water quality standards or is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations

required by Sections 301(b)(1)(A) and (B) of the Act. As such, Bear Creek should be included on the State's year 2006 list of WQLSs in need of TMDLs.

EPA solicited public comments on the addition of Bear Creek to the State's list and, following thorough review and consideration of the comments received, is now transmitting a final determination regarding adding the Creek for incorporation in the State's Section 303(d) list. The basis for adding Bear Creek to the State's list is discussed below.



Bear Creek/temperature/low priority

(Segment COSPBE01a; Evergreen Lake to Harriman Ditch)

Water Quality Standard Exceeded

This segment is classified for cold water aquatic life, recreation, water supply, and agriculture uses. EPA believes this waterbody does not currently meet all applicable water quality standards. In particular, Bear Creek's class 1 cold water aquatic life use classification is not fully being met. This view seemed to be shared by most parties at the State's 303(d) list hearing. In its rebuttal statement to the Commission¹, the Division concluded that this waterbody was impaired as evidenced by fisheries data; data that *".....showed a strong departure from the expected populations."* Further, the Division of Wildlife made the observation in its rebuttal statement² that *"Trout biomass estimates in 2005 were still below those recorded prior to the drought."*

Biological data, including fisheries data, were used to determine that the aquatic life use standard was not being met. This data included length-frequency, presence-absence, and population estimates and were used by the Division to conclude that there exists a depressed aquatic life community in the upper reaches of the Bear Creek segment even after the conclusion of a drought period³ and return to a normal flow regime. (See the discussion on pp. 10-11 below.)

The State's methodology for listing waters on its Section 303(d) list provides for the listing of waters based on biological assessment data. According to the Listing

¹ See "Rebuttal Statement of the Water Quality Control Division in the Matter of the 2006 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94)" (February 1, 2006).

² See "Responsive Prehearing Statement of the Colorado Division of Wildlife in the Matter of the 2006 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94)" (January 4, 2006).

³ Drought conditions mentioned in this document are considered to result in in-stream flows that are less than the 1-in-3 year recurrence flows.

Methodology, biological assessments will typically consider measurable conditions or features within an affected segment in comparison to an “expected condition.” For aquatic life uses, impairment is demonstrated when the biological community metrics reflect a condition that is significantly less than the expected or reference condition. The Division concluded that, although there was a partial recovery of the Bear Creek fishery after the 2002 drought, the fish biomass still indicated an impaired condition in the upper reaches of this segment.

Listing of Biologically-Impaired Waterbodies

The conclusion from the State that Bear Creek is biologically impaired is key to understanding EPA’s action on Bear Creek. The State and EPA agree that this waterbody is biologically impaired, based on assessment of the fisheries data. The State and EPA differ regarding their policies on when to list waters that demonstrate a biological impairment. The State’s listing methodology states “*Water bodies that are impaired but it is unclear whether the cause of impairment is attributable to pollutants as opposed to pollution will be placed on the M&E list.*” (See Listing Methodology at part III.D.1.)

This is in contrast with EPA’s guidance⁴ which states:

5. Must Category 5 [i.e., a state’s Section 303(d) list] include an impaired segment if the specific pollutant causing the impairment has not been identified? Yes, if a designated use is not supported and the segment is impaired or threatened, the fact that the specific pollutant is not known does not provide a basis for excluding the segment from Category 5. These segments must be listed unless the state can demonstrate that no pollutant(s) causes or contributes to the impairment.

EPA’s guidance has been consistent on this issue for the 2002, 2004, and 2006 listing cycles. For Bear Creek, the State has not demonstrated that no pollutant(s) causes or contributes to the impaired condition. Indeed, the Division wrote to the Commission in its rebuttal statement⁵ that pollutants may be involved in some way with the impaired condition by stating that “...it remains unclear whether depressed trout numbers in the upper reaches reflects an ongoing recovery period or is the result of one or more physical and/or chemical characteristics functioning individually or together to cause impairment.”

⁴ See “Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act”; Office of Water; United States Environmental Protection Agency (July 29, 2005).

⁵ See “Rebuttal Statement of the Water Quality Control Division in the Matter of the 2006 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94)” (February 1, 2006).

The inclusion of Bear Creek on the State's list should be determined based on whether it is meeting applicable water quality standards and not on whether the sources and causes of any standards exceedences are fully understood. For many waters listed on state 303(d) lists, further monitoring and evaluation need to occur to fully understand the reason for the impairments prior to developing a TMDL or alternative strategy. The failure of Bear Creek to meet standards may not be fully understood, but this is not a justification to exclude it from the 303(d) list. Indeed, the Act, EPA regulations and guidance, and previous case precedence indicate the benefit of listing waters as soon as impairment is determined, to minimize continued degradation of impaired waterbodies while investigating the nature and source of the impairment.

Role of the Drought in the Biological Condition of Bear Creek

It is important to note that Colorado's water quality standards allow for exceedences of certain standards under conditions of drought⁶. As such, EPA inspected conditions of Bear Creek before and after the 2002 drought. In its proponents prehearing statement⁷ EPA concluded, as it did during the 2004 listing cycle, that there were declining fish populations and fish kills observed by the Division of Wildlife prior to the drought and continued impaired conditions after the drought. Most important, the Division has noted that downstream portions of Bear Creek have been able to recover to "expected conditions" after the drought, but there remain portions that have not recovered ("...there is sufficient evidence demonstrating the aquatic life use is impaired along the upper reaches of Bear Creek.") Specifically, the upper reaches display a significant and

⁶ The following provides an excerpt from Colorado's water quality standards pertaining to exceedences due to natural conditions (emphasis added):

*Part 31.7(1)(b) Numeric Standards A numeric standard may be assigned by the Commission either to apply on a statewide basis or to specific state surface waters. A numeric standard will be assigned by the Commission when it is presented with evidence that a particular numeric level for a parameter is the suitable limit for protecting the classified use. A numeric standard consists of a numeric level and may include a description as to how that numeric level is to be measured. Numeric standards will include appropriate averaging periods and appropriate frequencies of allowed excursions. **A numeric standard may be exceeded due to temporary natural conditions such as unusual precipitation patterns, spring runoff or drought.** Such uncontrollable conditions are not cause for changing the numeric standard. (Emphasis added.) (Ref. The Basic Standards and Methodologies for Surface Water (5 CCR 1002-31) Regulation No. 31; Colorado Department of Public Health and Environment; Water Quality Control Commission; Effective October 30, 2001.)*

⁷ See EPA's "Proponent's Prehearing Statement of United States Environmental Protection Agency; Region VIII; Public Rulemaking Hearing Before the Colorado Water Quality Control Commission Regarding Proposed Revisions to Commission Regulation No. 93, Water Quality-Limited Segments Requiring Total Maximum Daily Loads (5CCR 1002-93) and Regulation No. 94 Colorado's Monitoring and Evaluation List (5CCR 1002-94)" (December 6, 2005).

continued reduction in the population of adult brown trout, a naturally reproducing species.

Both the observation that the fishery was stressed prior to the 2002 drought conditions and that only portions of Bear Creek have recovered after the drought indicate there may be additional stressors beyond those associated with the drought.

Further, it is not clear, although parts of Colorado experienced a multi-year drought, that the flows in Bear Creek itself in 2002 were far below the critical low flow as defined by the State. The Division stated in its rebuttal statement⁸ to the Commission for the 2004 listing cycle that it believed there was sufficient flow present in the Bear Creek segment of concern to provide sufficient habitat for trout as evidenced by effluent flows from the wastewater treatment plants. Also, the State uses the 30 day, 3 year ("30E3") and 1 day, 3 year ("1E3") statistical low flows above which standards are expected to be met⁹. As seen in Figure 1, the station above the impaired reach of Bear Creek experienced flows less than the 30E3¹⁰ for less than one month during the summer of 2002 and the lowest 30 day average was still close to the 30E3.

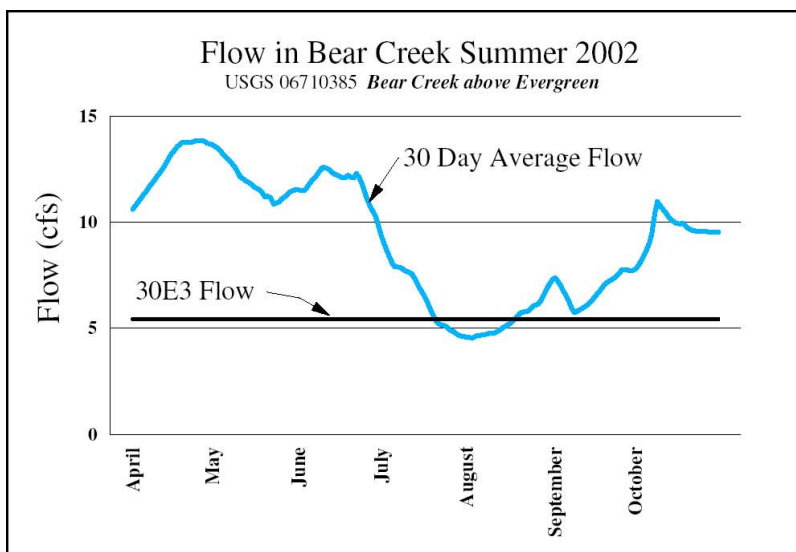


Figure 1. Flow in Bear Creek during summer of 2002.

⁸ See "Rebuttal Statement of the Water Quality Control Division in the Matter of the 2004 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93), and 2004 Monitoring and Evaluation List (Regulation No. 94)" (February 25, 2004).

⁹ See section 31.9(1) Low Flow Exceptions of Colorado's Basic Standards and Methodologies for Surface Water (5 CCR 1002-31).

¹⁰ Flows from USGS station 06710385 Bear Creek above Evergreen from 1985 -2003 were used to calculate the 30E3 low flow for Bear Creek.

Role of Temperature in Bear Creek

The biological impairment of Bear Creek and its failure to fully meet its aquatic life use is adequate justification to include Bear Creek on the State's Section 303(d) list.

According to EPA, a specific pollutant known to be contributing to a waterbody's impairment does not have to be identified prior to listing the impaired water. In the case of Bear Creek, however, there has been a history of high temperatures as addressed in the Division's testimony¹¹ during the 2004 listing cycle. Further, the Division of Wildlife notes in its 2006 responsive prehearing statement¹² that *"(I)t is important to note that daily maximum temperatures in this segment can exceed the suggested maximum weekly average temperature (~20 /C), and approach the upper incipient lethal temperatures (~25 /C) for brown trout and rainbow trout."*

The Division's Aquatic Life Use Attainment Assessment Form for Bear Creek, as included in the Division's Exhibit 4/5 for the listing hearing, notes the removal of riparian habitat and channelization of the Creek. These conditions lend themselves to high ambient water temperatures as observed in the past. EPA stated in its Responsiveness Prehearing Statement¹³ that it believes these conditions are still present and the risk of high temperatures in the Creek continues at times of low flow.

The risk of high temperatures in Bear Creek is evidenced by evaluating the pattern of in-stream flows along with ambient temperatures in the stream. The Division reported in its Exhibits 4/5 to the Commission that the recommended maximum weekly average temperature ("MWAT") was exceeded 4 times during July 2002. As discussed above, the flows during this period were not much lower than the 30E3 flow threshold above which standards are still expected to be met. The Division also noted in its Exhibits 4/5 that the MWAT was met during the last three year period. By inspecting the flow regime, this could be expected since the lowest summertime flows in Bear Creek during the last three years have been between 4 to over 20 times the 30E3. It would also be expected that

¹¹ See "Rebuttal Statement of the Water Quality Control Division in the Matter of the 2004 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93), and 2004 Monitoring and Evaluation List (Regulation No. 94)" (February 25, 2004).

¹² See "Responsive Prehearing Statement of the Colorado Division of Wildlife in the Matter of the 200 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94)" (January 4, 2006).

¹³ See EPA's "Responsive Prehearing Statement of United States Environmental Protection Agency; Region VIII; Public Rulemaking Hearing Before the Colorado Water Quality Control Commission Regarding Proposed Revisions to Commission Regulation No. 93, Water Quality-Limited Segments Requiring Total Maximum Daily Loads (5CCR 1002-93) and Regulation No. 94 Colorado's Monitoring and Evaluation List (5CCR 1002-94)" (January 4, 2006).

temperatures of Bear Creek would again approach and likely exceed standards under a flow regime near the critical 30E3 low flow.

Again, as stated in its responsiveness prehearing statement to the Commission, EPA believes the conditions that have resulted in an impaired condition for Bear Creek have not changed. The poor physical habitat that contributes to high in-stream temperatures still exists. Likewise, there is evidence that high temperatures could contribute to the fisheries impairment.

Priority

A low priority has been assigned to this listing to allow the state the flexibility to perform any needed monitoring to further investigate the sources and causes of the biological impairment of Bear Creek prior to determining a course of action. The “low” priority does not indicate that the problems of Bear Creek are not important to address. EPA hopes that all the stakeholders within this watershed will work together to chart out a plan of restoration for Bear Creek.

H. Basis for Decision to Defer Action to a later date for Waters excluded from Colorado’s 2006 §303(d) List.

Those waters and pollutants originally identified in EPA’s April 12, 2006 correspondence for which EPA deferred action to a later date are identified in Table 1. The State’s waterbody identification and description, pollutants of concern, and a brief explanation for deferring taking action on those waters to a later date are included in the table.

Table 1 Waters and Pollutants previously identified for which EPA Deferred Action to a later date on Colorado’s Section 303(d) Waterbody List.

Waterbody	Pollutant(s)	Reasons for EPA Action with respect to §303(d) List
Red Mountain Creek (Red Mountain Creek from East Fork of Red Mountain Creek to Uncompahgre River) Segment COGUUN06b	copper, lead, zinc	Water quality standard to be reconsidered by State at upcoming hearing.
South Platte River (South Platte River from Burlington Ditch to Big Dry Creek) Segment COSPUS15	cadmium	A cadmium TMDL was submitted by the State and approved by EPA. With this TMDL approval, listing is no longer required.

The basis for EPA’s final action on individual waters and pollutants previously identified for which EPA deferred action to a later date are discussed below for each water.

■ ■ ■

Red Mountain Creek/copper, lead, zinc

Red Mountain Creek from the East Fork of Red Mountain Creek to the Uncompahgre River
(Segment COGUUN06b)

This section of Red Mountain Creek is classified for cold water aquatic life, recreation, and agriculture uses. This segment suffers from the impacts of historical mining in the watershed and toxic levels of metals entering the Creek. Although this segment has applicable use classifications and narrative standards assigned to it, numeric standards have been assigned only for pathogens. Aquatic life in this segment is significantly impacted, and not anticipated to recover within any reasonable timeframe. The State has conducted a Use Attainability Analysis designed to remove the aquatic life use for this segment, and shared a draft of that document with EPA and stakeholders. EPA is deferring action on Red Mountain Creek with respect to the State's 2006 Section 303(d) List until the Commission holds an upcoming standards-setting hearing reconsidering the applicable water quality standards for the Creek.

■ ■ ■

South Platte River/cadmium

South Platte River from the Burlington Ditch to Big Dry Creek
(Segment COSPUS15)

The South Platte River from the Burlington Ditch to Big Dry Creek, Segment COSPUS15, was originally identified by the State as experiencing metals contamination in 1994. The 1996 303(d) list specified cadmium as exceeding numeric water quality standards, and this cadmium listing was retained on successive 303(d) lists through 2004. The State submitted a cadmium TMDL for this segment to EPA for review and approval. The TMDL was under review at the time when EPA took action on the State's list in its April 12, 2006 letter. EPA has completed its review of the South Platte River cadmium TMDL for this segment, and approved the TMDL as submitted by the State. Since EPA regulations require only those WQLSs still requiring TMDLs to be listed, waters for which TMDLs have been developed and approved need not be included on the Section 303(d) list.

A TMDL for cadmium in this waterbody has been submitted to, and approved by, EPA. As such, this waterbody is no longer required to be included on the State's 2006 §303(d) list, and EPA takes no action with respect to this waterbody.

I. Documents used in review of Colorado's §303(d) waterbody submittal

The following list presents documents used directly or indirectly as a basis for EPA's review of the State's Section 303(d) waterbody list. This list is not meant to be an exhaustive list of all records reviewed, but to provide the primary documents the Region relied upon in making its decisions to partially approve and partially disapprove the State's list. EPA consulted all the

prehearing and rebuttal statements submitted to the Commission in reference to its deliberations in the matter of the 2006 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93). Further, EPA representatives were in attendance at the Commission's hearing on Regulation No. 93 on February 13, 2006 and listened to all the testimony provided to the Commission on the matter.

December 28, 1978 Federal Register Notice, *Total Maximum Daily Loads Under Clean Water Act*, finalizing EPA's identification of pollutants suitable for TMDL calculations, 43 Fed. Reg. 60662

January 11, 1985 Federal Register Notice, *40 C.F.R. Parts 35 and 130, Water Quality Planning and Management: Final Rule*, 50 Fed. Reg. 1774

April 1991, "Guidance for Water Quality-Based Decisions: The TMDL Process," EPA 440/4-91-001.

July 24, 1992 Federal Register Notice, *40 C.F.R. Parts 122, 123, 130*, revision of regulation, 57 Fed. Reg.

August 8, 1997 memorandum from Robert Perciasepe, Assistant Administrator, Office of Water, to Regional Administrators and Regional Water Division Directors entitled "New Policies for Establishing and Implementing TMDLs."

40 C.F.R. Part 130 Water Quality Planning and Management

May 23, 1997 memorandum from Geoffrey H. Grubbs, Director, Assessment and Watershed Protection Division, Headquarters, US EPA to FACA Workgroup on Section 303(d) Listing Criteria, regarding "Nonpoint Sources and Section 303(d) Listing Requirements."

September, 1997 guidance from Office of Water, Headquarters, US EPA regarding Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates: Supplement, EPA-841-B-97-002B.

May 31, 2001 exhibits 5,8, and 12 of the Rebuttal Statement of the Water Quality Control Division for the Revisions to the Classifications and Numeric Standards for the Gunnison and Lower Dolores River Basins (Regulation No.35).

September 30, 2001 (last amended) The Basic Standards and Methodologies for Surface Water 3.1.0 (5CCR 1002-31); Colorado Department of Public Health and Environment, Water Quality Control Commission.

August 21, 2002 memorandum from Bob McConnell and Joni R. Nuttle (Colorado Water Quality Control Division) to Scott Klarich, Cary Pilon, and Ron Falco (Colorado Water Quality Control Division, regarding "Bear Creek."

July 21, 2003 guidance from the USEPA entitled Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act, Watershed Branch, Assessment and Watershed Protection Division, Office of Wetlands, Oceans, and Watersheds, US EPA.

September 9, 2003 report entitled Colorado's Section 303 (d) Listing Methodology published by the Colorado Department of Public Health and Environment.

April 2004 305(b) report entitled Status of Water Quality in Colorado -2004 published by the Colorado Department of Public Health and Environment.

February 3, 2004 Prehearing Statement of the Water Quality Control Division in the Matter of the 2004 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93, and 2004 Monitoring and Evaluation List (Regulation No. 94).

February 3, 2004 Prehearing Statement of Trout Unlimited in the Matter of Rulemaking Hearing to Establish Colorado's 2004 List of Water Quality Limited Segments Still Requiring TMDL's, 5 CCR-1002-93, and the Monitoring and Evaluation List, 5 CCR 1002-94.

February 25, 2004 Rebuttal Statement of the Colorado Division of Wildlife in the Matter of the 2004 List of Water Quality Limited Segments Requiring (sic) Total Maximum Daily Loads (Regulation No.93) and 2004 Moniotoirng (sic) and Evaluation List (Regulation No. 94).

February 25, 2004 Rebuttal Statement of the Water Quality Control Division in the Matter of the 2004 List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads (Regulation No. 93, and 2004 Monitoring and Evaluation List (Regulation No. 94).

March 1, 2004 letter from Paul D. Frohardt, Administrator, Colorado Water Quality Control Commission to Max Dodson, Assistant Regional Administrator for the Office of Ecosystems Protection and Remediation, US EPA Region VIII transmitting Colorado's 2002 Section 303(d) List and Colorado's 2002 Monitoring and Evaluation List.

March 17, 2004 letter from Chris J. Wiant, Chair, Colorado Water Quality Control Commission to Max Dodson, Assistant Regional Administrator for the Office of Ecosystems Protection and Remediation, US EPA Region VIII transmitting Colorado's 2004 Section 303(d) List.

March 17, 2004 regulation entitled "Regulation #93 2004 Section 303(d) List Water-Quality-Limited Segments Requiring TMDLs" adopted March 17, 2004, Effective May 31, 2004; Colorado Department of Public Health and Environment; Water Quality Control Commission.

March 17, 2004 regulation entitled "Regulation #94 Colorado's Monitoring and Evaluation List" adopted March 17, 2004, Effective May 31, 2004; Colorado Department of Public Health and Environment; Water Quality Control Commission.

January 3, 2005 letter from Karen Hamilton, Chief, Water Quality Unit, US EPA Region VIII to Sarah Johnson, Water Quality Control Division, Colorado Department of Public Health and Environment regarding “Review Comments on Colorado’s Section 303(d) Listing Methodology (v. 2)”.

April 13, 2005 letter from Karen Hamilton, Chief, Water Quality Unit, US EPA Region VIII to Paul Frohardt, Administrator, Colorado Water Quality Control Commission regarding “Comment on Section 303(d) Listing methodology (3/1/2005 version)”.

July 29, 2005 guidance from the USEPA entitled Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act; Office of Water; United States Environmental Protection Agency (July 29, 2005).

December 6, 2005 Proponent’s Prehearing Statement of the Water Quality Control Division in the Matter of the 2006 List of Water-Quality-Limited Segments Requiring Total maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94).

December 6, 2005 Proponent’s Prehearing Statement of the United States Environmental Protection Agency; Region VIII; Public Rulemaking Hearing Before the Colorado Water Quality Control Commission Regarding Proposed Revisions to Commission Regulation No. 93, Water Quality-Limited Segments Requiring Total Maximum Daily Loads (5CCR 1002-93) and Regulation No. 94 Colorado’s Monitoring and Evaluation List (5CCR 1002-94).

January 4, 2006 Responsive Prehearing Statement of the Colorado Division of Wildlife in the Matter of the 2006 List of Water-Quality-Limited Segments Requiring Total maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94).

January 4, 2006 Responsive Prehearing Statement of the Water Quality Control Division in the Matter of the 2006 List of Water-Quality-Limited Segments Requiring Total maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94).

January 4, 2006 Responsive Prehearing Statement of the United States Environmental Protection Agency; Region VIII; Public Rulemaking Hearing Before the Colorado Water Quality Control Commission Regarding Proposed Revisions to Commission Regulation No. 93, Water Quality-Limited Segments Requiring Total Maximum Daily Loads (5CCR 1002-93) and Regulation No. 94 Colorado’s Monitoring and Evaluation List (5CCR 1002-94).

February 1, 2006 Rebuttal Statement of the Water Quality Control Division in the Matter of the 2006 List of Water-Quality-Limited Segments Requiring Total maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94).

February 1, 2006 Rebuttal Statement of the Colorado Division of Wildlife in the Matter of the 2006 List of Water-Quality-Limited Segments Requiring Total maximum Daily Loads (Regulation No. 93), and 2006 Monitoring and Evaluation List (Regulation No. 94).

February 1, 2006 Rebuttal Prehearing Statement of the United States Environmental Protection Agency; Region VIII; Public Rulemaking Hearing Before the Colorado Water Quality Control Commission Regarding Proposed Revisions to Commission Regulation No. 93, Water Quality-Limited Segments Requiring Total Maximum Daily Loads (5CCR 1002-93) and Regulation No. 94 Colorado's Monitoring and Evaluation List (5CCR 1002-94).

March 14, 2006 regulation entitled "Regulation #93 2004 Section 303(d) List Water-Quality-Limited Segments Requiring TMDLs" adopted March 14, 2004, effective April 30, 2006; Colorado Department of Public Health and Environment; Water Quality Control Commission.

March 14, 2006 regulation entitled "Regulation #94 Colorado's Monitoring and Evaluation List" adopted March 14, 2006, effective April 30, 2006; Colorado Department of Public Health and Environment; Water Quality Control Commission.